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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/590,919	08/25/2006	Randall E. Tagawa	Tagawa Tissue USNP	4182
33549 7590 12/11/2009 SANTANGELO LAW OFFICES, P.C. 125 SOUTH HOWES, THIRD FLOOR FORT COLLINS, CO 80521				
EXAMINER				
BELL, KENT L				
ART UNIT		PAPER NUMBER		
1661				
NOTIFICATION DATE		DELIVERY MODE		
12/11/2009		ELECTRONIC		

Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Notice of the Office communication was sent electronically on above-indicated "Notification Date" to the following e-mail address(es):

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Office Action Summary

Application No.

10/590,919

Applicant(s)

TAGAWA ET AL.

Examiner

Kent L. Bell

Art Unit

1661

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --
Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on papers filed September 22, 2009.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 33-43, 60-62, 64, 67-70, 72-76, 78, 80, 81 and 168-174 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 33-43, 60-62, 64, 67-70, 72-76, 78, 80, 81 and 168-174 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 25 August 2006 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. _____.
 3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-946)
- 3) ☒ Information Disclosure Statement(s) (PTO/SB/08)
Paper No(s)/Mail Date 8/25/06
- 4) ☐ Interview Summary (PTO-413)
Paper No(s)/Mail Date: _____
- 5) ☐ Notice of Informal Patent Application
- 6) ☐ Other: _____

DETAILED ACTION

Claim Rejections - 35 USC § 112

The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

Claims 35, 39, 43, 68, 69, 70, and 72 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

In Claim 35, The recitation "properly balancing said synthetic retentive capability with a plant yield ability" is an abstract statement and someone of ordinary skill in the art would not be able to properly reproduce the claim method.

In Claim 39, The recitation "continually" is not understood and not defined in the specification. The Examiner is not sure whether applicant intended to state continuously or something similar. Correction and/or clarification is necessary.

In Claim 43, The term "finishing media" is a relative term which renders the claim indefinite. The term "finishing media" is not defined by the claim, the specification does not provide a standard for ascertaining the requisite degree, and one of ordinary skill in the art would not be reasonably apprised of the scope of the invention.

In Claim 68, The recitation "affirmatively removing" is indefinite, because it is uncertain how one solution can be affirmatively removed by a second solution without a portion of the first solution remaining. Correction and/or clarification is necessary. Claims 69, 70, and 72 are dependent upon Claim 68 and are also rejected.

In Claim 72, The term "refresher solution" is a relative term which renders the claim indefinite. The term "refresher solution" is not defined by the claim, the specification does not provide a standard for ascertaining the requisite degree, and one of ordinary skill in the art would not be reasonably apprised of the scope of the invention.

In Claim 75, The term "defining at least some large and at least some small voids" is a relative term which renders the claim indefinite. The term "defining at least some large and at least some small voids" is not defined by the claim, the specification does not provide a standard for ascertaining the requisite degree, and one of ordinary skill in the art would not be reasonably apprised of the scope of the invention. Claim 76 is dependent upon Claim 75 and is also rejected.

Claim Objections

Claim 61 is objected to under 37 CFR 1.75(c), as being of improper dependent form for failing to further limit the subject matter of a previous claim. Applicant is required to cancel the claim(s), or amend the claim(s) to place the claim(s) in proper dependent form, or rewrite the claim(s) in independent form. Claim 61 states "further comprising the step of substantially uniformly distributing said at least one nourishment solution throughout said porous framework". These claim limitations are stated in Claim 60 therefor, Claim 61 fails to further limit Claim 60.

Claim Rejections - 35 USC § 102

The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

Claims 33-43, 60-62, 64, 67-70, 72-76, 78, 80, 81, 168-174 are rejected under 35 U.S.C. 102(b) as being clearly anticipated by Walton (4,586,288).

Walton teaches a method of tissue culturing processing comprising the steps of: determining at least one transplant growth criterion appropriate to a given plant species; placing a tissue culture growth media and a plurality of explants in a first environment; nurturing at least an initial growth of said explants in said first environment; establishing said at least one transplant growth criterion (affirmatively) for a substantial portion of said

plurality of initially grown explants and at least some of said tissue culture media from said first environment at a time when said transplant growth criterion is substantially established; inserting said initially grown explants and at least some of said tissue culture media from said first environment in a second environment immediately after extruding said initially grown explants and at least some of said tissue culture media from said first environment; and secondarily growing said initially grown explants (Col. 5, line 1 to Col. 7, line 8).

Walton further teaches supplying a synthetic retentive capability (filler and gel combination) and maintaining said synthetic retentive capability during said step of extruding said initially grown explants and at least some of said tissue culture media from said first environment at a time when said transplant growth criterion is substantially established (Col. 5, line 1 to Col. 7, line 8).

Walton further teaches placing said tissue culture growth media and a plurality of explants in a first matrix of transplant containers (Figure 1 and Col. 4, lines 30-35).

Walton further teaches the step of simultaneously extruding said initially grown explants (Col. 7, lines 5-8).

Walton further teaches the step of adding at least one nourishment solution (nutrients and hormones) to said tissue culture growth media (porous framework and throughout porous framework equally) and said explants (Col. 6, lines 32-35).

Walton further teaches the step of placing said tissue culture growth media and said plurality of explants in dense population (Figure 1 and Col. 4, lines 30-35).

Walton further teaches the step of inserting said initially grown explants and at least some of said tissue culture media from said first environment in a less dense population than said first environment (Col. 7, lines 5-8).

Walton further teaches the step of amply contacting at least part of said explant to said at least one nourishment solution and further having a contact value of greater than about 25% to greater than about 35% (Figure 1 and Col. 4, lines 30-35).

Walton further teaches the step of adding a second nourishment solution to the porous framework balancing retentive exchange capacities with removal exchange capacities of said first nourishment solution in said porous framework; and affirmatively removing said first nourishment from said porous framework with said second nourishment solution wherein the step of removal pressure of said first nourishment solution is greater than a retentive force of first nourishment solution to said porous framework removing said first nourishment solution from said porous framework (Col. 6, line 32 to Col. 7, line 8).

Walton further teaches the step of defining a plurality of substantially uniform interstitial voids within said porous framework (voids having a size difference of less than 25%) and further having a total void volume of the porous structure of about 10% to 60% (Col. 5, lines 36 to 55).

Walton further teaches the step of providing an undistorted growth transport field of said porous framework (Col. 5, line 1 to Col. 7, line 8).

Walton further teaches the step of selecting an application of the addition of said solutions from the group consisting of spraying, sprinkling, dripping, pouring and injecting (Col. 6, lines 32-35).

Claim Rejections - 35 USC § 103

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

Claims 80, 81, and 171-174 are rejected under 35 U.S.C. 103(a) as being unpatentable over Walton (4,586,288).

Walton teaches all the limitations of claims 80, 81, and 171 but is silent to the step of optimally balancing air to said at least one nourishment solution within said porous framework comprises the step of providing about a 50% of air and about 50% of nourishment solution in said porous framework, and any of the ratios set forth in Claim 171. Walton teaches at Col. 6, lines 32-35 adding nutrients and hormones to the porous framework, and because Walton teaches the porous framework as a combination of a foam and a gel, it would be inherent that the ratio of air to nourishment solution would be within the range listed in Claims 80, 81, and 171, and therefore it would have been obvious to one of ordinary skill in the art to provide a specific ratio in the

porous framework of Walton to provide an optimal balance of air and nourishment solution.

Walton teaches all the limitations of claims 172-174 but is silent to the step of automating the extruding, inserting, and adding processes. The Examiner respectfully submits automation apparatus exist which would provide for automated transplant of explants and addition of nourishment solutions. It would have been obvious to one skilled in the art to automate the transplant of explants and the addition of nourishment solutions to increase the accuracy and efficiency of the processes.

Future Correspondence

Any inquiry concerning this communication or earlier communications from the Examiner should be directed to Kent L. Bell whose telephone number is (571) 272-0973. The Examiner can normally be reached Monday through Thursday from 6:00 am to 4:30 pm.

If attempts to reach the Examiner by telephone are unsuccessful, the Examiner's supervisor, Anne Marie Grunberg, can be reached at (571) 272-0975.

The fax phone number for the group is (703) 872-9306.

Any inquiry of a general nature or relating to the status of this application should be directed to the Group receptionist whose telephone number is (571) 272-1600.

K. L. Bell

/Kent L. Bell/

Primary Examiner, Art Unit 1661